

WHAT IS CLAIMED IS:

1. An image pickup apparatus comprising:
an imaging element which converts received light from an object into an image signal;
a signal processing circuit which processes the image signal;
a display device that displays a multi-dimensional hue chart; and
a user interface that inputs user desired settings for image processing of the image signal using the display device while displaying said multi-dimensional hue chart.
2. The image pickup apparatus according to Claim 1, wherein the display device displays said multi-dimensional hue chart together with an image displayed on the basis of image signal.
3. The image pickup apparatus according to Claim 1, wherein the display device switches the display screen between the image displayed on the basis of the image signal from the imaging element and said multi-dimensional hue chart in accordance with operation of the user interface.
4. The image pickup apparatus according to Claim 1,

wherein the display device displays an image of the object to be captured and superimposes said multi-dimensional hue chart on an image of the object to be captured.

5. The image pickup apparatus according to Claim 1, further comprising:

a white balancing device that performs white balancing on the image signal,

wherein the user interface sets an achromatic color determining range for the white balancing in said multi-dimensional hue chart, and

the white balancing device performs the white balancing on the basis of the achromatic color determining range set by the user interface.

6. The image pickup apparatus according to Claim 5, wherein said multi-dimensional hue chart has color temperatures indicated on one coordinate axis and an other characteristic which is different from the color temperatures indicated on the other coordinate axis.

7. The image pickup apparatus according to Claim 5, wherein said multi-dimensional hue chart includes a coordinate axis of hues that extends in the directions of green and magenta, and a coordinate axis of color

temperatures that is a black radiation axis or an achromatic axis equivalent thereto.

8. The image pickup apparatus according to Claim 5, wherein the user interface sets the breadth of the achromatic color determining range along a color temperature axis.

9. The image pickup apparatus according to Claim 5, wherein the user interface sets the breadth of the achromatic color determining range along a hue axis.

10. The image pickup apparatus according to Claim 5, wherein the user interface arbitrarily sets an upper limit and/or a lower limit of the achromatic color determining range.

11. The image pickup apparatus according to Claim 5, wherein the user interface sets the achromatic color determining range by the coordinates on said multi-dimensional hue chart.

12. The image pickup apparatus according to Claim 5, wherein the user interface sets the achromatic color determining range by changing the shape of a closed region

on said multi-dimensional hue chart, the closed region representing the achromatic color determining range.

13. The image pickup apparatus according to Claim 7, wherein the user interface sets the achromatic color determining range by changing the position of the closed region on said multi-dimensional hue chart.

14. The image pickup apparatus according to Claim 7, wherein the achromatic color determining range settable by the user interface varies according to the conditions under which an image of the object is captured.

15. The image pickup apparatus according to Claim 7, wherein the achromatic color determining range settable by the user interface is limited to a higher color temperature side and/or a lower color temperature side according to the brightness of an object.

16. An image pickup apparatus comprising:

an imaging element which converts light received from an object into an image signal;

a signal processing circuit which processes the image signal;

a display device that displays a multi-dimensional hue

chart; and

an operation setting device that enters user desired operation settings for the image pickup apparatus,

wherein the color distribution of the image signal processed by the signal processing circuit on the basis of the operation settings input from the operation setting device is displayed on said multi-dimensional hue chart.

17. The image pickup apparatus according to Claim 16, wherein said multi-dimensional hue chart has color temperatures indicated on one coordinate axis and an other characteristic which is different from the color temperatures indicated on the other coordinate axis.

18. The image pickup apparatus according to Claim 17, wherein said multi-dimensional hue chart includes a coordinate axis of hues extending in the directions of green and magenta, and a coordinate axis of color temperatures that is a black radiation axis or an achromatic axis equivalent thereto.

19. The image pickup apparatus according to Claim 16, wherein the display device displays said multi-dimensional hue chart together with an image displayed on the basis of the image signal.

20. The image pickup apparatus according to Claim 16, wherein the display device switches the display screen between an image displayed on the basis of the image signal from the imaging element and said multi-dimensional hue chart in accordance with operation of the user interface.

21. The image pickup apparatus according to Claim 16, wherein the display device superimposes said multi-dimensional hue chart on an image to be captured.

22. An image pickup apparatus comprising:

an imaging element that converts light received from an object into an image signal;

a signal processing circuit that processes the image signal;

a display device that displays a setting screen showing tracing levels of white balancing selectable by a user;

an achromatic color determining parameter setting device that sets achromatic color determining parameters for a tracing level selected by a user on the setting screen; and

a white balancing device that performs white balancing on the image signal using the achromatic color determining parameters set by the achromatic color determining parameter

setting device.

23. The image pickup apparatus according to Claim 22, wherein the tracing level of white balancing corresponds to the breadth of an achromatic color determining range on a multi-dimensional hue chart showing changes in hue.

24. The image pickup apparatus according to Claim 22, wherein the display device displays colors corresponding to the tracing level set on the setting screen.

25. The image pickup apparatus according to Claim 22, wherein a user interface arbitrarily sets an upper limit and/or a lower limit of the achromatic color determining range.

26. The image pickup apparatus according to Claim 22, wherein a user interface sets the achromatic color determining range by the coordinates on said multi-dimensional hue chart.

27. The image pickup apparatus according to Claim 22, wherein a user interface sets the achromatic color determining range by setting the shape of a closed region on said multi-dimensional hue chart, the closed region

representing the achromatic color determining range.

28. The image pickup apparatus according to Claim 22, wherein a user interface sets the achromatic color determining range by setting the position of a closed region on said multi-dimensional hue chart, the closed region representing the achromatic color determining range.

29. An image pickup method comprising:
converting light received by an imaging element from an object into an image signal;
processing the image signal;
displaying a multi-dimensional hue chart; and
inputting user desired settings for image processing of the image signal in the signal processing step, on the basis of said multi-dimensional hue chart displayed in said display step.

30. A display method for an image pickup apparatus, comprising:
converting light received by an imaging element from an object into an image signal;
processing the image signal;
displaying an image on the basis of the image signal processed in the signal processing step;

displaying a multi-dimensional hue chart,
inputting user desired operational settings for
operating the image pickup apparatus; and
displaying an image having the color distribution of
the image signal subjected to the signal processing in the
signal processing step on said multi-dimensional hue chart
in accordance with the operational settings.

31. An image pickup method comprising:

converting light received by an imaging element from an
object into an image signal;

processing the image signal;

displaying a setting screen that shows tracing levels
of white balancing;

selecting achromatic color determining parameters for
the tracing level arbitrarily set by a user on the setting
screen; and

performing white balancing on the image signal using
the achromatic color determining parameters set in the
setting step.

32. A computer-readable recording medium in which a
display program for an image pickup apparatus that processes
an image signal from an imaging element has been recorded,
wherein the display program is for causing a computer of the

image pickup apparatus to execute the display method according to Claim 29.

33. A computer-readable recording medium in which a display program for an image pickup apparatus that processes an image signal from an imaging element has been recorded, wherein the display program causes a computer of the image pickup apparatus to execute the display method according to Claim 30.

34. A computer-readable recording medium in which a program for an image pickup apparatus that processes an image signal from an imaging element has been recorded, wherein the program causes a computer of the image pickup apparatus to execute the image pickup method according to Claim 31.

35. A program for an image pickup apparatus that processes an image signal from an imaging element, wherein the program causes a computer of the image pickup apparatus to execute the image pickup method according to Claim 29.

36. A program for an image pickup apparatus that processes an image signal from an imaging element, wherein the program causes a computer of the image pickup apparatus

to execute the display method according to Claim 30.

37. A program for an image pickup apparatus that processes an image signal from an imaging element, wherein the program causes a computer of the image pickup apparatus to execute the image pickup method according to Claim 31.